

## CLAIMS:

What is claimed is:

1. A gaming machine having an improved game display comprising:  
5 a polyhedral reel having a plurality of faces, each face having an indicium;  
a drive mechanism connected to the polyhedral reel for rotating the polyhedral reel;  
and  
a central processing unit for determining a stopped position for the polyhedral reel, the  
central processing unit further for controlling the drive mechanism to position  
10 the polyhedral reel in the stopped position.
2. The gaming machine described in claim 1, wherein the rotating polyhedral reel is  
oscillating.
- 15 3. The gaming machine as described in claim 2, wherein the oscillation is reversed  
before the polyhedral reel makes a complete revolution.
4. The gaming machine as described in claim 1, wherein the drive mechanism is a  
stepper motor.

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5. A gaming machine comprising:
- a wager acceptor;
  - a polyhedral reel having a plurality of faces, each face having an indicium;
  - a drive mechanism connected to the polyhedral reel for rotating the polyhedral reel;
  - 5 and
  - a central processing unit for determining a game outcome, the game outcome determining a stopped position for the polyhedral reel, the central processing unit further for controlling the drive mechanism to position the polyhedral reel in the stopped position to display the game outcome, the central processing
  - 10 unit further for determining an award for a winning game outcome.
6. The gaming machine described in claim 5, wherein the rotating polyhedral reel oscillates.
- 15 7. The gaming machine as described in claim 5, wherein the drive mechanism is a stepper motor.
8. A method for providing an improved game display for a gaming machine comprising:
- rotating a polyhedral reel with a stepper motor;
  - 20 controlling the position of the polyhedral reel with a central processing unit in communication with the stepper motor;
  - determining a stopped position for the polyhedral reel with the central processing unit;
  - and
  - stopping the polyhedral reel at the stopped position.

9. The method described in claim 8, further comprising rotating the polyhedral reel in alternating directions before reaching the stopped position.
10. The method described in claim 9, wherein the rotational direction is alternated before  
5 the polyhedral reel completes a full revolution.
11. A method for providing a wagering game comprising:  
placing a wager;  
rotating a polyhedral reel with a stepper motor, the polyhedral reel having a plurality  
10 of faces, each face having an indicium;  
controlling the position of the polyhedral reel with a central processing unit in  
communication with the stepper motor;  
determining a game outcome with the central processing unit, the game outcome  
determining a stopped position for the polyhedral reel;  
15 stopping the rotation of the polyhedral reel in the stopped position; and  
making an award for a winning game outcome.
12. A gaming machine comprising:  
a plurality of polyhedral reels, each polyhedral reel having a plurality of faces, each  
20 face having an indicium;  
a drive mechanism for rotating each of the plurality of polyhedral reels;  
a plurality of pay lines formed from predetermined groups of polyhedral reels selected  
from the plurality of polyhedral reels;  
a wager acceptor for receiving a wager on at least one of the plurality of pay lines; and

a central processing unit for determining a game outcome, the game outcome determining a stopped position for each of the plurality of polyhedral reels, the central processing unit further for positioning each of the plurality of polyhedral reels with the drive mechanism to the stopped position, the central processing unit further for making an award for a winning game outcome occurring on the at least one of the plurality of pay lines for which a wager was received.

13. A method for providing a wagering game comprising:

rotating a plurality of polyhedral reels, each of the plurality of polyhedral reels having a plurality of faces, each of the plurality of faces having an indicium;

creating pay lines from selected groups of polyhedral reels selected from the plurality of polyhedral reels;

placing a wager on at least one of the plurality of pay lines;

determining a game outcome with the central processing unit, the game outcome determining the stopped position for each of the plurality of polyhedral reels;

stopping the rotation of each polyhedral reel at the stopped position determined for each of the plurality of polyhedral reels to display the game outcome; and

making an award for a winning game outcome occurring on the at least one pay line on which the wager was placed.

14. A method for providing a bonus game comprising:

rotating a plurality of polyhedral reels, each of the plurality of polyhedral reels having a plurality of faces, each of the plurality of faces having an indicium;

determining a game outcome with the central processing unit, the game outcome  
determining the stopped position for each of the plurality of polyhedral reels;  
stopping the rotation of each polyhedral reel at the stopped position to display the  
game outcome; and  
5 making an award for a winning game outcome.

15. The method as described in claim 14, wherein the rotating of the plurality of  
polyhedral reels is an oscillating rotation.

10 16. The method as described in claim 14, wherein each polyhedral reel is sequentially  
stopped.

17. The method as described in claim 15, wherein the award is the sum of all credit values  
displayed on the stopped reels.

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18. The method as described in claim 17, wherein the award is the sum of all the credit  
values displayed on the stopped reels multiplied by the product of each multiplier  
displayed on the stopped reels.

20 19. A gaming machine comprising:  
a plurality of polyhedral reels, each polyhedral reel having a plurality of faces, each  
face having an indicium;  
a drive mechanism for rotating each of the plurality of polyhedral reels;  
a pay line formed from a predetermined group of polyhedral reels selected from the  
25 plurality of polyhedral reels;

a wager acceptor for receiving a wager on the pay line; and

a central processing unit for determining a game outcome, the game outcome  
determining a stopped position for each of the plurality of polyhedral reels, the  
central processing unit further for positioning each of the plurality of  
5 polyhedral reels with the drive mechanism to the stopped position determined  
for each of the plurality of polyhedral reels, the central processing unit further  
for making an award for a winning game outcome.